

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 84-53

NPDES NO. CA0038580

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

Hercules Wastewater Treatment Plant
City of Hercules
Contra Costa County

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter Board) finds that:

1. City of Hercules, hereinafter discharger, submitted a report of waste discharge dated December 6, 1983 for reissuance of NPDES Permit No. CA0038580.
2. The discharger is renovating a 0.2 million gallon per day treatment plant to serve the Hercules area. Treatment consists of screening, primary and secondary treatment in a series of three facultative ponds, final settling, and chlorination.

The treated wastewater is to be discharged into San Pablo Bay, a water of the State and United States, through a submerged outfall about 3,600 feet offshore at a depth of 18 feet below mean lower low water. (Latitude 38 deg., 3 min., 6 sec;) (Longitude 122 deg., 15 min., 55 sec.), which is used jointly by Rodeo Sanitary District, and the cities of Pinole and Hercules.

3. During the start-up and testing period, the effluent will be discharged to the collection system of the Pinole treatment plant, after which it will be discharged directly to the forcemain leading to the outfall at Rodeo.
4. The discharge is presently governed by Waste Discharge Requirements, Order No. 78-113 which allow discharge into San Pablo Bay.
5. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for San Pablo Bay and contiguous waters.

6. The beneficial uses of San Pablo Bay and contiguous water bodies are:
 - o Water Contact Recreation
 - o Non-contact Water Recreation
 - o Wildlife Habitat
 - o Preservation of Rare and Endangered Species
 - o Estuarine Habitat
 - o Fish migration and Spawning
 - o Industrial Service Supply
 - o Shellfish Harvesting
 - o Navigation
 - o Commercial and Sport Fishing
7. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.
8. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
9. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant is prohibited.
2. The average dry weather flow shall not exceed 0.20 mgd. Average shall be determined over three consecutive months each year.
3. Discharge at any point at which the wastewater does not received an initial dilution of at least 45:1 is prohibited.

B. Specifications

1. Wastewater at the surface of all ponds shall meet the following quality limits at all times:

In any grab sample:

Dissolved Oxygen	2.0 mg/l minimum
Dissolved Sulfides	0.1 mg/l maximum

2. A minimum freeboard of one foot shall be maintained in all ponds at all times.
3. All ponds shall be protected from erosion, washout, and flooding from the maximum flood having a predicted frequency of once in 100 years.
4. The waste shall not cause degradation of any ground water so as to impair beneficial use.

C. Effluent Limitations

1. Effluent discharged shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>30-day Average</u>	<u>7-day Average</u>	<u>Maximum Daily</u>	<u>Instantaneous Maximum</u>
a. Settleable Matter	ml/l-hr	0.1	-	-	0.2
b. BOD ₅ or	mg/l	30	45	60	-
Carbonaceous BOD ₅ (1)	mg/l	25	40	50	-
c. TotalSuspended Solids	mg/l	30	45	60	-
d. Oil & Grease	mg/l	10	-	20	-
e. Total Chlorine Residual(2)	mg/l	-	-	-	0.0

(1) Effective upon its promulgation in a new secondary treatment definition.

(2) Requirement defined as below the limit of detection in standard test methods.

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same times during the same period (85 percent removal).
3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.
4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples.
5. Representative samples of the effluent shall not exceed the following limits:(1)

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>6-month median</u>	<u>Daily Maximum</u>
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbons (2)	mg/l	0.002	0.004

- (1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.
- (2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6. The moving median value for the MPN of total coliform in any five (5) consecutive effluent samples shall not exceed 240 coliform organisms per 100 milliliters. Any single sample shall not exceed 10,000 MPN/100 ml.

D. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen 5.0 mg/l minimum.
Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved Sulfide 0.1 mg/l maximum
 - c. pH Variation from natural ambient pH by more than 0.5 pH units.
 - d. Un-ionized ammonia 0.025 mg/l as N Annual Median
0.4 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

E. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 78-113. Order No. 78-113 is hereby rescinded.
2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

Mass Emission Limit in lbs/day = Concentration limit in mg/l x 8.34 x Actual Flow in mgd averaged over the time interval to which the limit applies.

3. The discharger shall discharge treated wastewater to the City of Pinole and demonstrate compliance to the satisfaction of the Executive Officer before beginning discharge to the San Pablo Bay outfall.
4. The discharger shall comply with all sections of this Order immediately upon commencement of discharge to the interceptor line to the outfall at Rodeo.

5. The discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. Documentation of operator input and review shall accompany each annual update.
6. The discharger shall review and update by December 31, annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
7. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
8. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977. Standard Provision C.2. is revised to read as follows:
 2. The "30-day, or 7-day, average" discharge is the total discharge by weight during 30, or 7 consecutive calendar day periods, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day, or 7-day, average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days during the 30, or 7, consecutive calendar day period when the measurements were made. For other than 7-day or 30-day periods, compliance shall be based on the average of all measurements made during the specified period.
9. This Order expires September 19, 1989. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

10. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on September 19, 1984.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions &
Reporting Requirements, April 1977
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

City of Hercules
Contra Costa County

NPDES NO. CA0038580

ORDER NO. 84-53

CONSISTS OF

PART A, dated January 1978

AND

PART B

PART B

I. Description of sampling stations

A. Influent

Station	Description
A-1	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. Effluent

Station	Description
E-001	At any point in the treatment facilities after chlorination and prior to mixing with Pinole wastewater.
E-002	At any point in the treatment facilities or outfall before the Pinole's flow combines with the flow from Rodeo Sanitary District.

C. Land Observations

Station	Description
P-1 through P-'n'	Located at the corners and midpoints of the perimeter fenceline surrounding the treatment facilities. (A sketch showing the locations of these stations will accompany each report.)

D. Overflows and Bypasses

Station	Description
O-1 through O-'n'	Bypasses or overflows from manholes, pump stations, interceptor, or collection system.

Note: Initial SMP report to include map and description of each known bypass on overflow location

II. Schedule of Sampling and Analysis

- A. The schedule of sampling and analysis shall be that given as Table I.

III. Modification of Part A, Dated January 1978

A. This monitoring program does not include the following sections: C.3, C.4, C.5.d(4), D.3

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program;

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 84-53.
2. Is effective on the date indicated below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

Roger B. James
Executive Officer

Effective Date 20 September 1984

Attachments:

Table I
Form A

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS (1), (5)

Sampling Station	A-1	E-001		E-002		P&L	0	All Ponds			
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	0	0			
Flow Rate (mgd)	D			D							
BOD, 5-day, 20° C, or COD (mg/l & kg/day) (4)	3/W		3/W								
Chlorine Residual & Dosage (mg/l & kg/day)		2H or Cont			2H or Cont						
Settleable Matter (ml/l-hr. & cu. ft./day)		D									
Total Suspended Matter (mg/l & kg/day) (4)	3/W		3/W								
Oil & Grease (mg/l & kg/day) (2)		W									
Coliform (Total or Fecal) (MPN/100 ml) per req't		5/W									
Fish Toxicity, 96-hr. TL ₅₀ (3 % Survival in undiluted waste)			M								
Ammonia Nitrogen (mg/l & kg/day) (6)			M								
Nitrate Nitrogen (mg/l & kg/day)											
Nitrite Nitrogen (mg/l & kg/day)											
Total Organic Nitrogen (mg/l & kg/day)											
Total Phosphate (mg/l & kg/day)											
Turbidity (Jackson Turbidity Units)											
pH (units)				cont							
Dissolved Oxygen (mg/l and % Saturation)		D						W			
Temperature (°C)		D									
Apparent Color (color units)											
Secchi Disc (inches)											
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)		W						W			
Arsenic (mg/l & kg/day)			Y								
Cadmium (mg/l & kg/day)			Y								
Chromium, Total (mg/l & kg/day)			Y								
Copper (mg/l & kg/day)			Y								
Cyanide (mg/l & kg/day)			Y								
Silver (mg/l & kg/day)			Y								
Lead (mg/l & kg/day)			Y								

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-1	E-001			E-002		P&L	O					
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	O	O					
Mercury (mg/l & kg/day)			Y										
Nickel (mg/l & kg/day)			Y										
Zinc (mg/l & kg/day)			Y										
PHENOLIC COMPOUNDS (mg/l & kg/day)			Y										
All Applicable Standard Observations							W	E					
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			Y										

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours
(used when discharge does not
continue for 24-hour period)
Cont = continuous sampling
DI = depth-integrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwater stations

FREQUENCY OF SAMPLING

E = each occurrence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and
once in September
Q = quarterly, once in
March, June, Sept.
and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

- 1/ During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:
 1. Composite sample for BOD, Total Suspended Solids. (Influent and Effluent)
 2. Grab sample for Coliform (Total and Fecal), Settleable Matter, Oil and Grease, and Chlorine Residual (continuous or every two hours).
 3. Continuous monitoring of flow.
- 2/ Oil and Grease sampling shall consist of 3 grab samples taken during the sampling day with each grab being collected in a glass container and analyzed separately. Results for station E-001 shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample. The three grab samples may be taken at approximately equal intervals during the period that discharge is made.
- 3/ If a continuous bioassay is to be run, sample may be taken from E-001 prior to disinfection instead of dechlorinating E-001 effluent.
- 4/ Percent removal (effluent vs. influent) shall be reported.
- 5/ Data shall be reported using forms provided by the Board or an approved equivalent; chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.
- 6/ This parameter shall be tested for on the same composite sample used for the bioassay.